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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,723	04/15/2004	L. Pierre deRochemont	10116-102DIV2	6724
26486	7590	11/05/2004	EXAMINER	
PERKINS, SMITH & COHEN LLP ONE BEACON STREET 30TH FLOOR BOSTON, MA 02108			NGUYEN, DONGHAI D	
			ART UNIT	PAPER NUMBER
			3729	

DATE MAILED: 11/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/824,723	<b>Applicant(s)</b> DEROCHEMONT ET AL.	
	<b>Examiner</b> Donghai D. Nguyen	<b>Art Unit</b> 3729	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 August 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-7 and 9-11 is/are rejected.
- 7) ☒ Claim(s) 4 and 8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>8/30/04</u> | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Oath/Declaration***

1. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because of many problems such as:  
It does not identify the mailing address of each inventor. A mailing address is an address at which an inventor customarily receives his or her mail and may be either a home or business address. The mailing address should include the ZIP Code designation. The mailing address may be provided in an application data sheet or a supplemental oath or declaration. See 37 CFR 1.63(c) and 37 CFR 1.76.

It does not identify the city and either state or foreign country of residence of each inventor. The residence information may be provided on either on an application data sheet or supplemental oath or declaration.

It was not executed in accordance with either 37 CFR 1.66 or 1.68.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3, 5-7, and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No 5,227,338 to Kryzaniwsky in view of US Patent No. 5,849,110 to Blohowiak et al.

Regarding claim 1, Kryzaniwsky discloses a method of constructing a composite structure, comprising the steps of: providing at least one electrical conductor (12-15, etc) to form

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a portion of an electrical network; providing at least one thermal conductor (1, 18, 19, etc.) to form a portion of a thermal network; and applying a dielectric material (11) to the electrical conductor, the thermal network and the electrical network being encompassed by the dielectric material (Fig. 4). Kryzaniwsky is silent about forming a direct covalent bond at a temperature less than 475 degrees C. between the electrical conductor and the dielectric material. However, Blohowiak et al teach the a direct covalent bond (Abstract) at a temperature less than 475 degrees C. (Col. 3, lines 18-21) between the electrical conductor (65) and the dielectric material (45/55) for improving adhesion between metal and resin/dielectric material (Col. 2, lines 62-66). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kryzaniwsky to form a direct covalent bond at a temperature less than 475 degrees C. between the electrical conductor and the dielectric material as taught by Blohowiak et al for improving adhesion between metal and resin/dielectric material.

Regarding claims 3, 5, see Fig. 4 of Kryzaniwsky.

Regarding claims 10 and 11, Kryzaniwsky in Fig. 4 discloses electrically connecting the at least one semiconductor device (50-10) to the electrical conductor (12, 51) and to the thermal conductor (1, 2, 18, 59).

Regarding claims 6, 7 and 9, it would have been an obvious matter of design choice to choose the dielectric material comprises an alumina-based ceramic, a silica-based ceramic, or an organo-ceramic, since Applicants have not disclosed the specified dielectric material, solves any stated problem or is for any particular purposes and it is appears that the invention would perform equally well with the dielectric material of Kryzaniwsky or Blohowiak et al.

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4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kryzaniwsky in view of Blohowiak et al as applied to claim 1 above, and further in view of US Patent 5,475,264 to Sudo et al.

Kryzaniwsky as modified do not disclose providing at least one capacitor within the dielectric material and at least one capacitor being electrically connected between the electrical network and the at least one patterned electrically conductive member. Sudo et al. teach that capacitor connecting between conductive patterns (12 and 13, Sudo's fig. 2) reduces power supply noise and increase the DC supply capability (col. 5, lines 40-45 of Sudo). It would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify Kryzaniwsky to have at least one capacitor connects between the electrical network and the pattern electrically conductive member as taught by Sudo et al. for reducing power supply noise and increase the DC supply capability.

#### ***Allowable Subject Matter***

5. Claims 4 and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donghai D. Nguyen whose telephone number is (703) 305-7859. The examiner can normally be reached on Monday-Friday (9:00-6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter D. Vo can be reached on (703) 308-1789. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DN



A. DEXTER TUGBANG  
PRIMARY EXAMINER